

CLAIMS

1. Zinc aluminate, ~~characterized in that it~~ ^{having,} ~~at least at~~ ^{least at} ~~has~~, after being calcined at ^{800°C} for 8 hours, a specific surface area of at least $85 \text{ m}^2/\text{g}$.

2. Zinc aluminate according to claim 1, ~~characterized in that it has~~, ^{having,} after being calcined at 800°C for 8 hours, a specific surface area of at least $100 \text{ m}^2/\text{g}$.

3. Zinc aluminate according to ^{either of the} ~~preceding claims~~, ^{having,} ~~characterized in that it has~~, after being calcined at 900°C for 2 hours, a specific surface area of at least $70 \text{ m}^2/\text{g}$, ~~more particularly at least~~ ~~80 m²/g~~.

4. Zinc aluminate according to ^{one of the} ~~preceding claims~~, ^{having,} ~~characterized in that it has~~, after being calcined at 1000°C for 6 hours, a specific surface area of at least $50 \text{ m}^2/\text{g}$, ~~more particularly at least~~ ~~70 m²/g~~.

5. Zinc aluminate according to ^{one of the} ~~preceding claims~~, ^{having,} ~~characterized in that it has~~, after being calcined at 1000°C for 6 hours, in an $\text{H}_2\text{O}/\text{N}_2$ medium with 10% H_2O by volume, a specific surface area of at least $50 \text{ m}^2/\text{g}$.

6. Zinc aluminate according to one of the preceding claims, characterized in that it comprises at least one additive chosen from the elements of Groups IA, IIA, VIIA to IB of the Periodic Table and from tin,

Subs
X

Sub A, X, C, X
gallium and the rare earths.

7. Precursor composition for a zinc aluminate, characterized in that it comprises compounds of zinc and of aluminium and in that it is capable of forming, after being calcined, a zinc aluminate, this aluminate having, after being calcined at 800°C for 8 hours, a specific surface area of at least 85 m²/g.

8. Composition according to claim 7, *which* characterized in that it is capable of forming an aluminate having, after being calcined at 800°C for 8 hours, a specific surface area of at least 90 m²/g, *more particularly at least 100 m²/g.*

9. Composition according to claim 7 ~~or 8~~, *A Comprising* characterized in that it furthermore comprises at least one compound of an element *chosen from the group consisting of Groups IA, IIA, VIIA to IB of the Periodic Table and from tin, gallium and the rare earths.*

10. Process for the preparation of an aluminate according to one of claims 1 to 6, or of a precursor composition according to one of claims 7 to 9, characterized in that it comprises the following steps:
- a zinc salt, sol or alkoxide and an aluminium alkoxide are brought together in a solvent medium, optionally with a salt, sol or alkoxide of at least one aforementioned additive;
- the mixture thus formed is hydrolysed by adding water in an excess amount with respect to the aluminium alkoxide;

*Sub
A2
C2X*
5

the precipitate formed is recovered and optionally dried, thereby obtaining the precursor composition;

- if required, the said precipitate is calcined, thereby obtaining the aluminate.

11. Process for the preparation of an aluminate comprising an additive according to claim 6 or of a precursor composition comprising a compound of an element according to claim 9, characterized in that it 10 comprises the following steps:

- a zinc salt, sol or alkoxide and an aluminium alkoxide are brought together in a solvent medium;

15 - the mixture thus formed is hydrolysed by adding water in an excess amount with respect to the aluminium alkoxide;

- the precipitate formed is recovered and optionally dried, thereby obtaining the precursor composition;

20 - if required, the said precipitate is calcined, thereby obtaining the aluminate;

- the precursor composition or the aluminate is impregnated with a solution of a salt of the additive or of the aforementioned element.

A
25 *Wherein* characterized in that an alcoholic solvent is used as solvent medium.

A
A
13. Process according to claim 10, ~~or 11~~ or ~~12~~
characterized in that water in the form of a

Wherein

water-alcohol mixture is added.

Claim 10

~~14. Process according to one of claims 10 to 13, characterized in that the zinc salt and the aluminium alkoxide are brought together by adding the zinc salt in the solvent medium to the aluminium alkoxide.~~

Claim 10

~~15. Process according to one of claims 10 to 14, characterized in that the precipitate is calcined at a temperature of at least 500°C.~~

Claim 1

~~16. Process for the treatment of gases for the purpose of reducing the emissions of nitrogen oxides, comprising using a catalytic system comprising an aluminate according to one of claims 1 to 6 is used.~~

Claim 1

~~17. Process for the treatment of exhaust gases of motor vehicles, characterized in that a catalytic system comprising an aluminate according to one of claims 1 to 6 is used.~~

Claim 1

~~18. Process for the treatment of gases from motor vehicles, characterized in that a catalytic system comprising an aluminate according to one of claims 1 to 6 is used, the gases having a high oxygen content.~~

Claim 1

~~19. Catalytic system for the implementation of a process according to claims 16, 17 or 18, characterized in that it comprises an aluminate according to one of claims 1 to 6 on a substrate.~~

Claim 1

~~20. Use of an aluminate according to one of claims 1 to 6 or of a precursor composition according to one of claims 7 to 9 for the manufacture of a catalytic system according to claim 19.~~

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